

CUSTOM Part for 50121255 

Ship. May 25

Work Order ID 132220

132220

Page 1

Item ID: D350-602-013 *cust. Part.*

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Heli-Utility-Pod™ LH

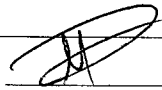
Start Date: 5/04/15 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 5/27/15 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan:  Date: 5-4 Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D2202	G
D2694	I
DSI 9515	B

100	Document Control	0.00	DAS 6 9-89						<i>ML5</i> <i>15-05-21</i>
100	DOCUMENT CONTROL								

DC	Memo	0.00							
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Doc.Control -USB or Paperwork	Photocopy bluefile & type labels per PPP	D350-602-013	CHG002						
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DQA:

Date:

15/06/11

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed:

Date:

15/06/08

Work Order update only

Work Order: <u>132220</u>		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. <u>D350-602-013</u>		Rework ☒		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
NCR No. <u>15-5059</u>		Scrap ☐		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
		Use-as-is ☐		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☒		
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐	Planning ☒		
Date: <u>20/05/14</u>		Step #: <u>100</u>		QTY Effective: <u>X1</u>			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				S 15/05/14	
separate base from lid by drilling out AD62 ABS rivets x 19 from base to hinge to allow more ease for rework RE For easier working condition / No Fault.				scrap + replace rivets AD 62 ABS x 19 B <u>125293</u>				Completed By <u>EB</u> 15-05-14	
								Lead hand / Supervisor Approval Verification <u>EB</u> 15-05-20	
								QC / QA Coordinator Approval <u>S 15/05/20</u>	
Root Cause				FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	☒ Manufacturing Process								
Misidentified ☐	Past Due ☐	OTHER: <u>No fault.</u>							

Work Order ID 132220

Monday, May 04, 2015 9:13:02 AM

132220

Page 2

Item ID: D350-602-013

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Heli-Utility-Pod™ LH

Start Date: 5/04/15

Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/27/15

Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140

0.00

140

Small Fab

Small Fab

0.00

Memo

PULL FROM STOCK.

1X D350-602-011 B: 121878

MODIFY PER DRAWING DE09217

SUPERCEDED BY D2202 REV:G

1-Assemble as per Dwg D2694

2-Install label D2258-160 on Pod

Assembly as per Dwg D2694 at

location of max pod load label on pg2 of dwg

3- CUSTOM BUILD AS PER CUTOMER DRAWING.

4- MODIFY AS PER DEO 9217

SUPERCEDED BY D2202 REV:G

INSTALL:

1X D4038-1 B: 13224842X AD64ABS B: 1287282 X AD66ABS B: 112789EPOCAST 50 A/B B: 131354HARDNER 9816 B: 13135490Z CLOTH B: 127701PRIMER FILLER B: 132072ACTIVATOR B: 132072RTV SEALANT B: 131036

15-05-11

DQA:

Date: 15/06/11



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: 15/06/08

Work Order update only

Work Order: <u>132220</u> Part No. <u>D30602 013</u> NCR No. <u>15-5060</u>	DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☒</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>			Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☒	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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Description Work Order Deviation		Disposition		Completed By <u>ET 15-05-13</u>																																																																
Perform cutouts as per attached dwg # 3DLM_110283 in D3048-1 doubler. One $\varnothing 4.0$ " hole and one 9.06" x 3.15" rectangle with 0.43" rad in corners. R1 Part Mod Per cust.		ACCEPTABLE DEVIATION THIS W/O ONLY. AS PER ATTACHED EMAIL FROM DAVID SHEPHERD.		Lead hand / Supervisor Approval Verification <u>EB</u> <u>15-05-20</u>																																																																
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OTHER: <u>Part Modification</u>																																																																				

Work Order ID 132220

Monday, May 04, 2015 9:13:02 AM

132220

Page 3

Item ID: D350-602-013

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Heli-Utility-Pod™ LH

Stop

NS2

Start Date: 5/04/15 Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/27/15 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

150

QC5- Inspect part completeness to step on W/O

0.00

150

QC

Memo

0.00

Quality Control

1
EB
15-05-28

160

Pick Kit

0.00

160

Packaging

Memo

0.00

Packaging

41
15-05-14

170

QC4- 100% Inspect kits for completeness

0.00

170

QC

Memo

0.00

Quality Control

N/A MJS MAY 22 2015 P10 →

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: <u>132220</u> Part No. <u>D300-602-013</u> NCR No. _____		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☒</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td><u>Planning</u></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☒	Large Fab ☐	Composite ☐	Supplier ☐	<u>Planning</u>																																																		
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Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																																																																						
LOA ☐	☒ Product Improvement	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																																																																						
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																																																																						
Past Expiry Date ☐	Manufacturing Process ☐	☒ OTHER : <u>cust part / process not followed</u>																																																																									
Misidentified ☐	Past Due ☐																																																																										

Work Order ID 132220

Monday, May 04, 2015 9:13:02 AM

132220

Page 4

Item ID: D350-602-013

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Heli-Utility-Pod™ LH

Stop

NS2

Start Date: 5/04/15 Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/27/15 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180		0.00							
180	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D350-602-013								
	Location: _____								
	PPP Rev: _____								
190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	0.00							
Quality Control									

15/05/21 SP

ML5 MAY 22 2015

YLF
15-5-21

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong		
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions		
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance		
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect		
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing		
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved		
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing		
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish		
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread		
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence		
Past Expiry Date ☐	☐ Manufacturing Process	OTHER :					
Misidentified ☐	☐ Past Due						

Picklist Print

Monday, May 04, 2015 9:13:14 AM

Page 1

Work Order ID: 132220

132220

Parent Item: D350-602-013

D350-602-013

Parent Item Name: Heli-Utility-Pod™ LH

Start Date: 5/04/15

Required Date: 5/27/15

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A New Issue 06-05-01 JLM IPP Rev:B Added D3495-1 06-05-17
JLM IPP RevC: add route seq DD 10.01.07 verified
by:EC IPP REV:D AS PER ECN 10-558 JLM 10-04-27
VERIFIED BY:DD
IPP Rev:C 09-02-03 update dwg rev's DD verified by:EC IPP Rev:D
add D2202-1 and D2202-5 DD 10.04.07 verified:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

AD64ABS

Purchased

No

Each

304.0000

42

AD64ARS

Pop Rivet

41 15-05-14

Location

Loc Qty

Loc Code

CA

85

M128728

85

x42

CCK004

219

M128728

219

AD66ABS

Purchased

No

Each

282.0000

2

AD66ARS

Pop Rivet

41 15-05-14

Location

Loc Qty

Loc Code

st549

282

112784

282

x2

D3048-1

Manufactured

No

Each

3.0000

1

D3048-1

Doubler

132248

41 15-05-11

Location

Loc Qty

Loc Code

CA002

2

100618

2

CA2

1

52263

1

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

Monday, May 04, 2015 9:13:14 AM

Page 2

Work Order ID: 132220

132220

Parent Item: D350-602-013

D350-602-013

Parent Item Name: Heli-Utility-Pod™ LH

Start Date: 5/04/15

Required Date: 5/27/15

Start Qty: 1.00

Required Qty: 1.00

D350-602-011

Manufactured No

Each 1.0000 1

D350-602-011

Heli-Utility-Pod™ (Fits LH or RH)

ET 15-05-11

Location

Loc Qty

Loc Code

FG095

1

121878

1

71

FG-778150-550-ROL

Purchased

No

sf 1,105.000

40

***FG-778150-550-ROL ***

7781 9oz Glass 50x125yd

ET 15-05-11

Location

Loc Qty

Loc Code

CA2

1105

M127701

1105

7 40

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

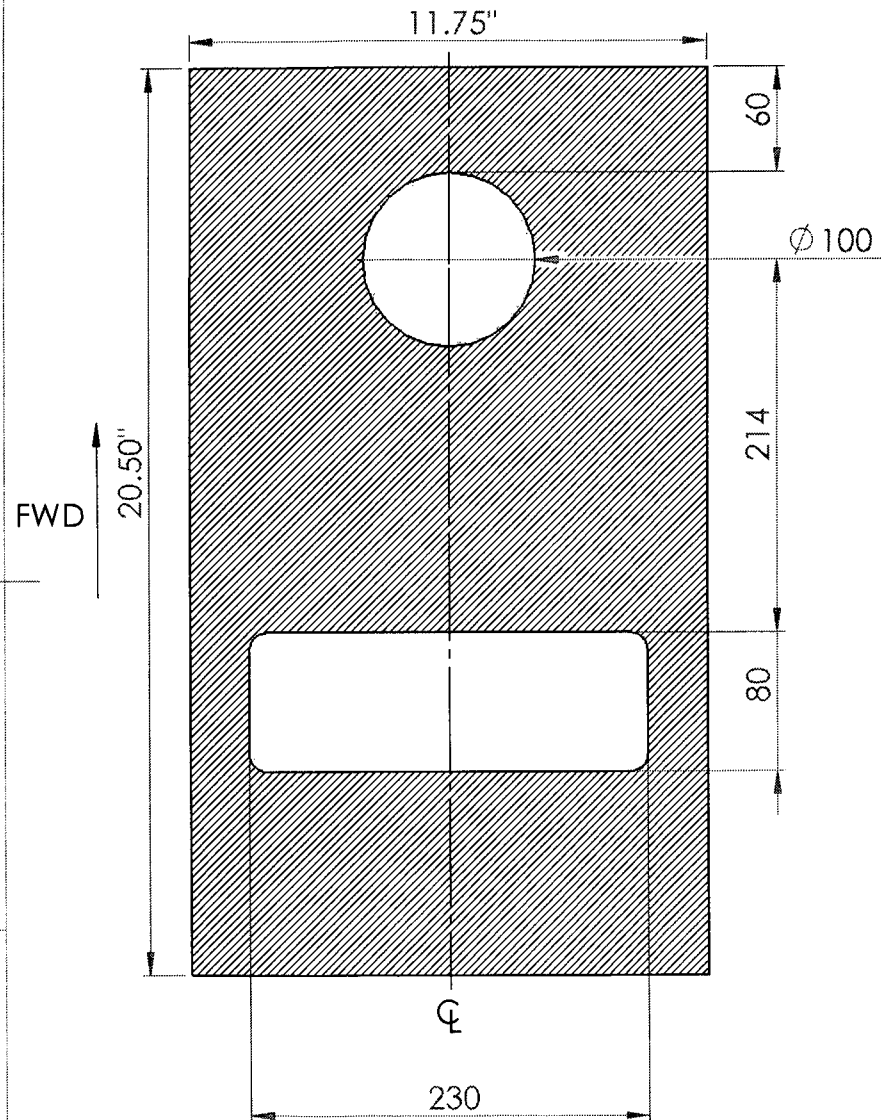
QA Closed: _____ Date: _____

Work Order update only ☐

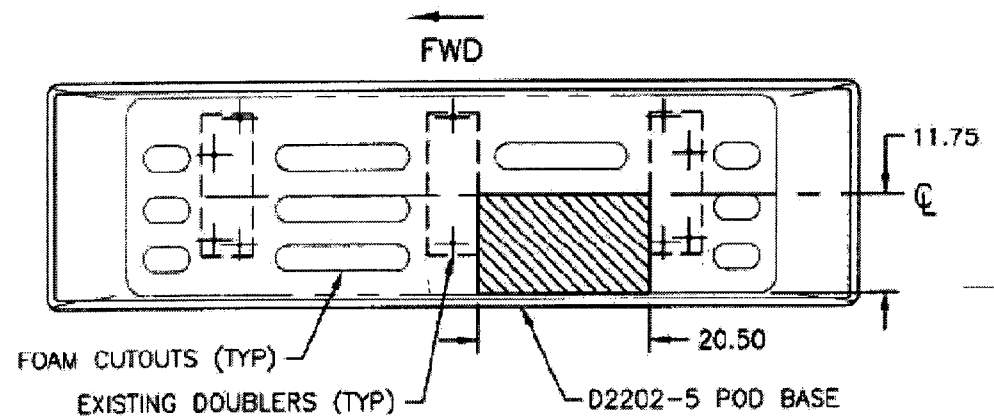
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By																																																									
								Lead hand / Supervisor Approval Verification																																																									
								QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER :			
Misidentified ☐	Past Due ☐																																																																

Modifications to DART pod D350-602-013/014

DRAWN BY	DATE	MATERIAL	FINISH	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN mm TOLERANCES: LINEAR: ±0.1mm ANGULAR: ±1°	DEBUR AND BREAK SHARP EDGES
S.STONE	01/05/2015				



MODIFICATIONS IN SHADED AREA
LOCATED IN POD AS SHOWN BELOW



D350-602-013 SHOWN (D350-602-014 OPPOSITE)

DO NOT SCALE DRAWING REVISION 2



TITLE:

DART Pod Modifications

DWG NO.

3DLM_110283

A4

SCALE:1:4

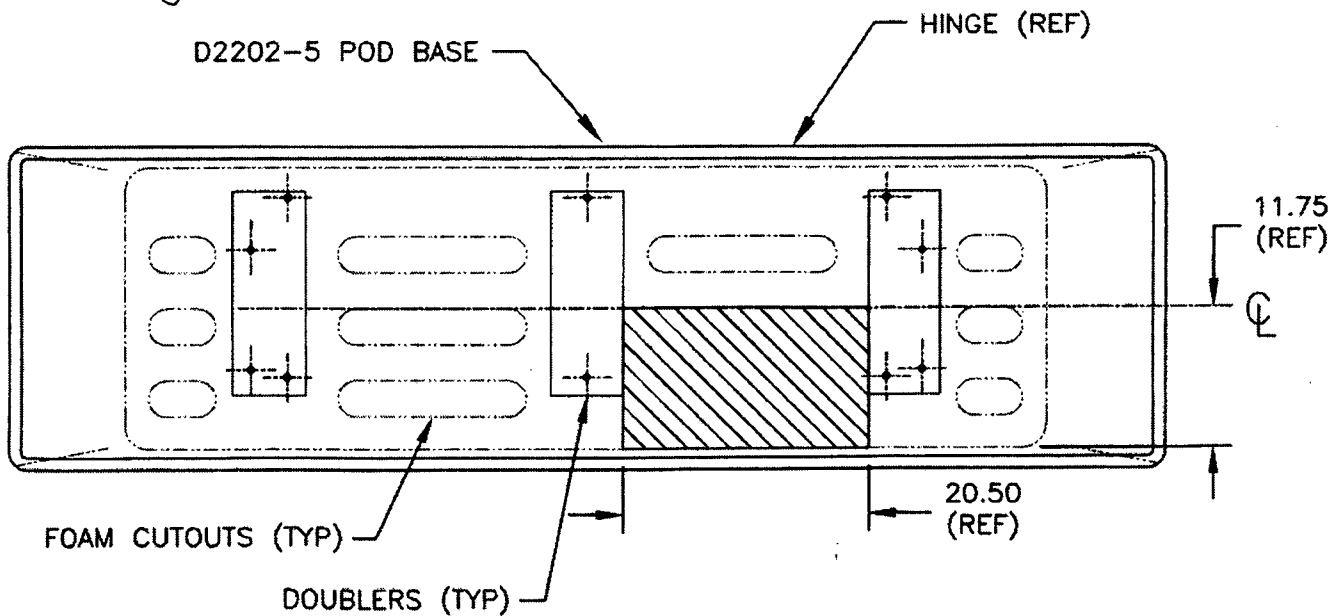
SHEET 1 OF 1

DART

DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3322	REV. A SHEET 1 OF 1
DATE 04.09.26		TITLE POD ASSEMBLY	SCALE 1:15
A	04.09.26	NEW ISSUE	

RELEASED
04.10.29 *[Signature]***D3322-041/-042 POD ASSEMBLY**

- 1) THE D3322-041/-042 POD ASSEMBLIES ARE THE SAME AS THE D2694 POD ASSEMBLIES, EXCEPT THE D2202-3 POD BASE IS REPLACED WITH THE D2202-5 POD BASE

*sub
11/09/08*

D3322-041 POD ASSEMBLY (SHOWN)
D3322-042 POD ASSEMBLY (OPPOSITE)

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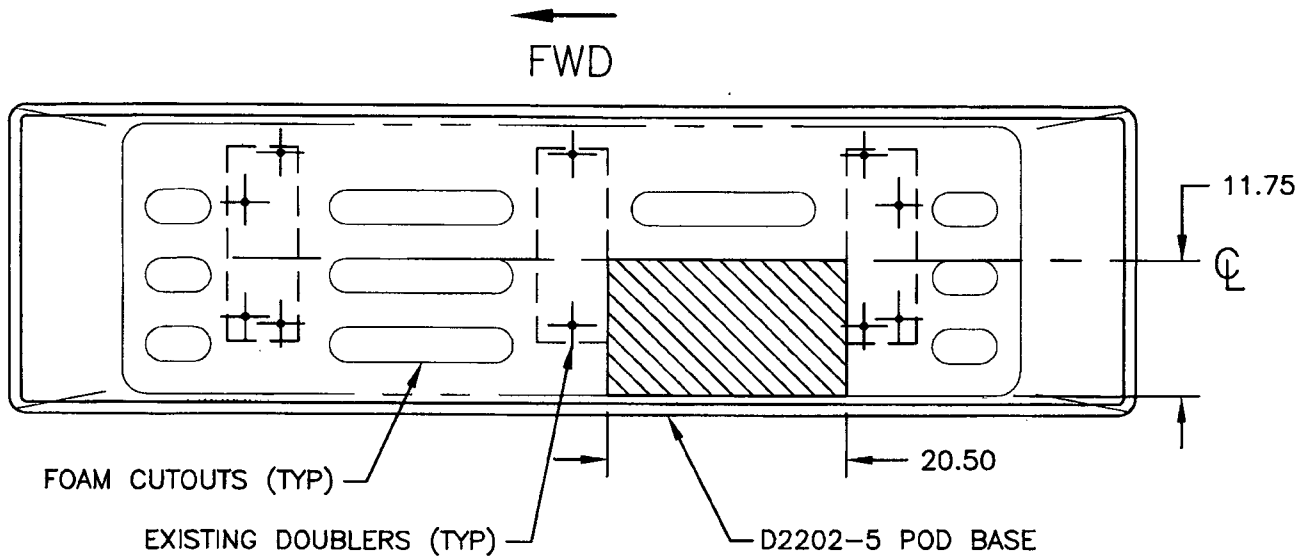


Figure 4 – Modification to D350-602-013/-014 pods (-013 LH shown, -014 RH opposite)
View looking down

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Revision: E

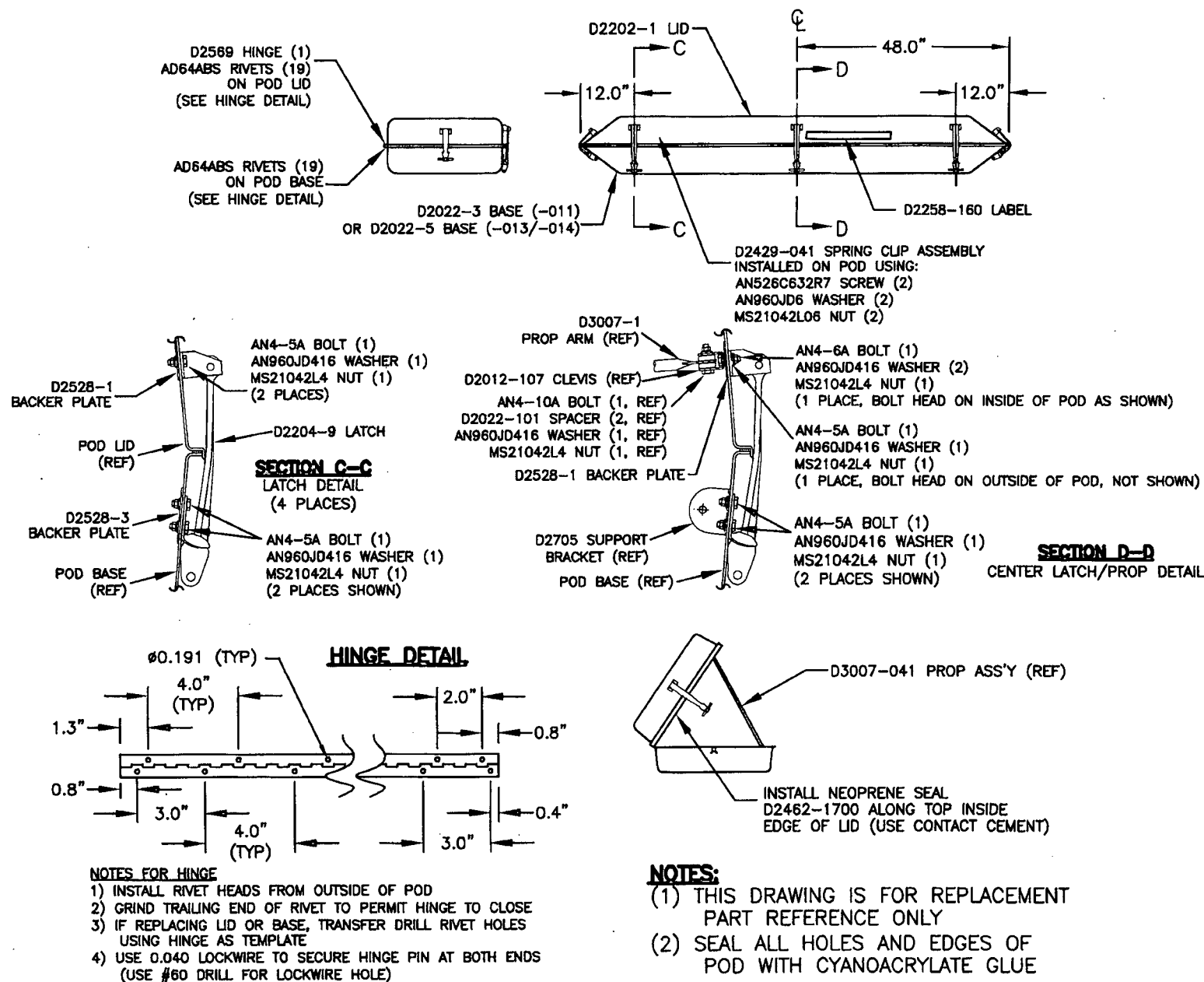


Figure 5 – Replacement Parts

NOTES:**1) MATERIALS:**

RESIN: EPOCAST 50-A/9816,
OR DERAKANE 470-38/411/510A40

FOAM: A500 CORE CELL,
OR DIVINYCELL,
OR AIREX,
0.38 THICK (3/8 FOAM)

FIBRE: 9.7 oz 7781 WEAVE 'S' GLASS (9 oz SATIN)
5 oz PLAIN WEAVE KEVLAR (5 oz KEVLAR)

2) FINISH: INSIDE = PRIME PER DART QSI 005 4.2
OUTSIDE = WHITE GELCOAT #GEL 944W005

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX

6) IDENTIFICATION: NONE

7) WEIGHT: N/A

8) LAMINATE PER DART QSI 006.
LAMINATION SCHEDULE PER THIS DRAWING.

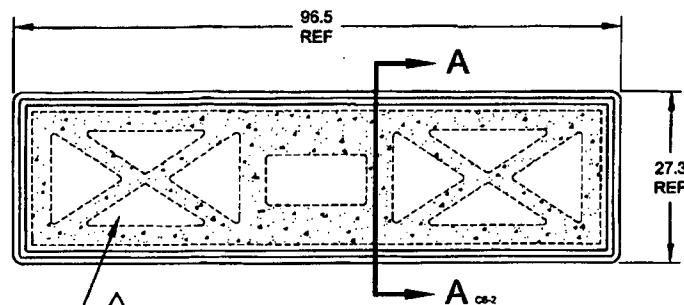
9) PEEL PLY ALL SURFACES.

RELEASED
2010-10-28

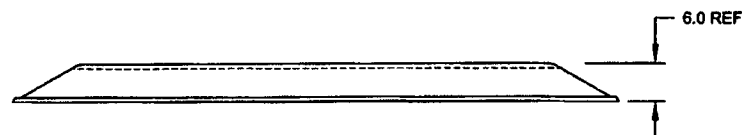
G	REFORMAT DRAWING TO CURRENT STANDARDS; D2202-101 WAS D2202-1 (ZN C5-2, A4-2); ADD 77.5 & 22.0 DIM. (ZN D4-3, C6-3); D2202-103 WAS D2202-5 (ZN C5-3, A4-3); ADD 2.00 MAX (ZN D3-4); INCORPORATED DEO 9217 & ADD D2202-51-6 ON SHEET 5 PER PAR 09-034	RF	09.10.06
F	CHANGE LAYUP, DOUBLER, NOW DRILLED	CP	01.03.14
E	ADDED SECTIONS WITH LIP DIMS	KE	99.11.11
D	MOVED DOUBLERS, REMOVED HOLES	KE	98.11.09
C	REVISED DOUBLER/HOLES LOCATIONS	KE	97.07.04
B	ADD DOUBLERS AND HOLES	-	93.10.27
A	NEW ISSUE	-	93.10.27
REV.	DESCRIPTION	BY	DATE
DESIGN	KE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>JP</i>	DRAWING NO.	REV. G
MFG. APPR.	JM	D2202	SHEET 1 OF 5
APPROVED	<i>JP</i>	TITLE	SCALE
DE APPR.	<i>JP</i>	UTILITY POD LID AND BASE	NTS
DATE	09.10.06	COPYRIGHT © 1993 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

SEE
DETAIL B
A6-2

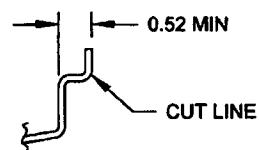
SECTION A-A C3-4



G
D2202-101 FOAM CORE,
MAKE FROM 3/8" FOAM, ROUTER PER DT8024



D2202-1 LID
(MOLD DT8002)



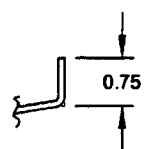
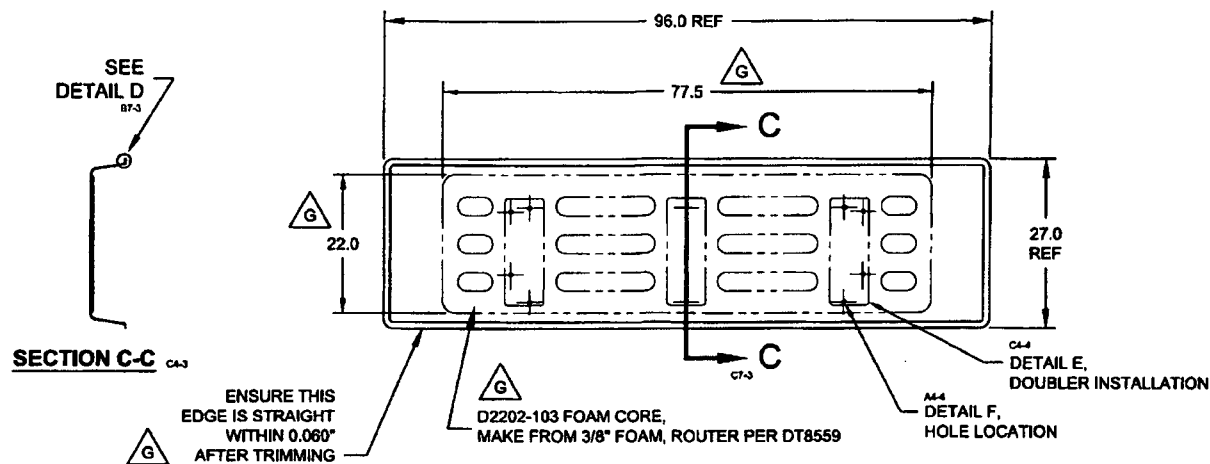
DETAIL B D6-2
SCALE 10X

MAIN LAYUP

G
9oz SATIN
9oz SATIN
5oz KEVLAR
D2202-101 FOAM CORE
5oz KEVLAR
9oz SATIN

RELEASED
2010-10-28
M

DESIGN	KE	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>JP</i>	DRAWING NO.	REV. G
MFG. APPR.	JM	D2202	SHEET 2 OF 5
APPROVED	<i>JP</i>	TITLE	SCALE
DE APPR.	<i>JP</i>	UTILITY POD LID AND BASE	NTS
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DETAIL D
SCALE 10X
D7-3

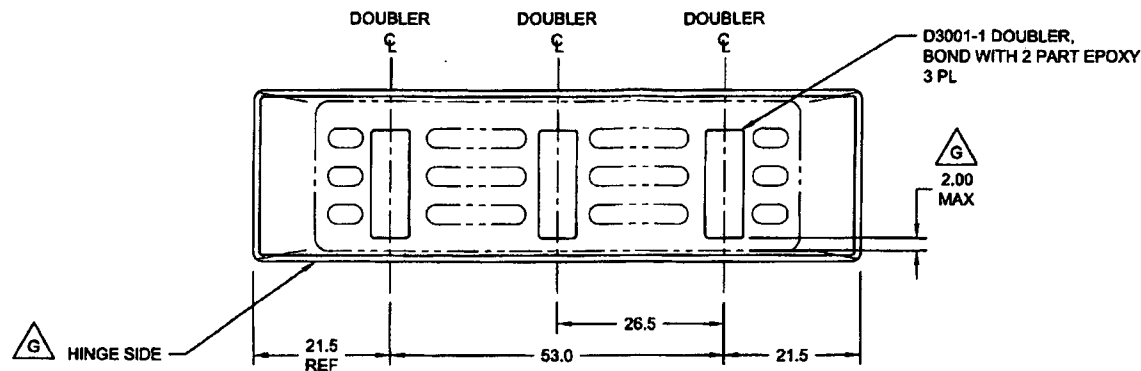
D2202-3 BASE
(MOLD DT8002)

MAIN LAYUP

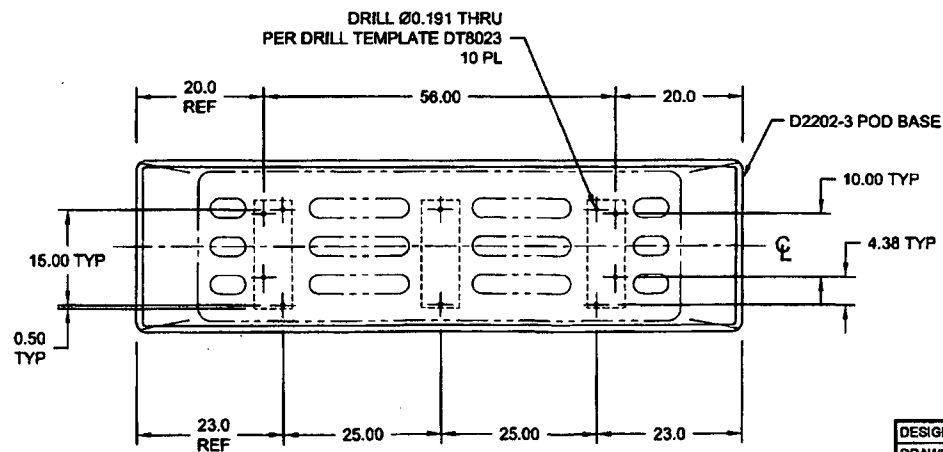
9oz SATIN
9oz SATIN
5oz KEVLAR
D2202-103 FOAM CORE
5oz KEVLAR
5oz KEVLAR
9oz SATIN

RELEASED
2010-10-28

DESIGN	KE	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	9	DRAWING NO.	REV. G
MFG. APPR.	JM	D2202	SHEET 3 OF 5
APPROVED	12	TITLE	SCALE
DE APPR.	12	UTILITY POD LID AND BASE	NTS
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DETAIL E: INSTALLATION OF D3001-1 DOUBLERS C3-3



DETAIL F: HOLE DRILLING C3-3
(AFTER DOUBLER INSTALLATION)

RELEASED
2010-10-28

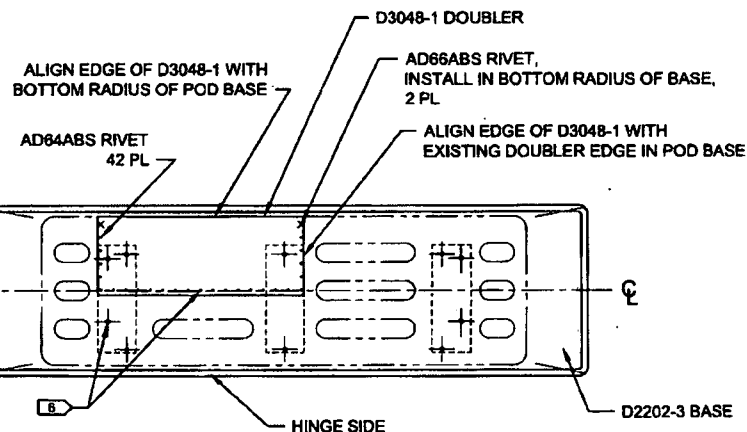
DESIGN	KE	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	JP	DRAWING NO.	REV. G
MFG. APPR.	JM	D2202	SHEET 4 OF 5
APPROVED	JP	TITLE	SCALE
DE APPR.	JP	UTILITY POD LID AND BASE	NTS
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NOTES : TO MAKE A D2202-5/6 BASE (FOR D3048-013/014 FROM A D2202-3 BASE)

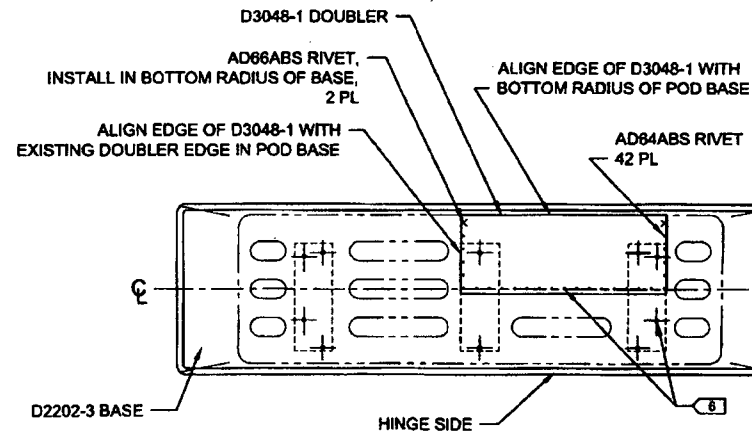
- 1) REMOVE FOAM IN AREA OF POD BASE WHERE D3048-1 DOUBLER WILL BE INSTALLED
- 2) FILL GAPS WITH 9oz SATIN AND RESIN PER DWG (APPROX. 3-4 LAYERS)
- 3) 2 LAYERS OF 9oz SATIN
- 4) BOND D3048-1 DOUBLER IN ORIENTATION SHOWN AND LET CURE
- 5) TRANSFER Ø0.125 HOLES FROM D3048-1 TO POD BASE. INSTALL DOUBLER WITH AD84ABS RIVETS (42) AND AD86ABS (2)
- 6) TRANSFER Ø0.191 HOLES FROM POD BASE TO D3048-1. SEAL HOLES WITH CYANOACRYLATE GLUE
- 7) TOUCH UP AFFECTED AREA WITH GREY PRIMER PER DWG
- 8) FILL CENTER OF THE AD RIVETS WITH RTV 732 TO SEAL

PART LIST:

QTY -5	QTY -6	PART NUMBER	DESCRIPTION
X		D2202-5	POD BASE
	X	D2202-6	POD BASE
1	1	D2202-3	BASE
1	1	D3048-1	DOUBLER
42	42	AD84ABS	RIVET
2	2	AD86ABS	RIVET
AR	AR	RTV	SEALANT



D2202-5 BASE: D3048-1 DOUBLER INSTALLATION (MAKE FROM D2202-3 BASE)



D2202-6 BASE: D3048-1 DOUBLER INSTALLATION (MAKE FROM D2202-3 BASE)

DESIGN	KE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	JP	DRAWING NO.	REV. G
MFG. APPR.	JM	D2202	SHEET 5 OF 5
APPROVED	199	TITLE	SCALE
DE APPR.	199	UTILITY POD LID AND BASE	NTS
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RELEASED
2010-10-28

Marc Bellavance

From: David Shepherd
Sent: May-13-15 10:12 AM
To: Marc Bellavance
Subject: RE: Heli Utility Pod Enquiry

Marc,

As discussed, I see no problem with cutting the holes as a deviation on the work order since the holes are in compliance with our IIN.

Please ensure that the edges of the hole are properly sealed to prevent moisture ingress.

Regards,
David

From: Marc Bellavance
Sent: May-13-15 7:09 AM
To: David Shepherd
Subject: RE: Heli Utility Pod Enquiry
Importance: High

Hi David,

Just saw your Travel Schedule... Would be much appreciated if you have time to review my email from yesterday as Ian has now stopped working on the Pod.

Thanks,
Marc

From: Marc Bellavance
Sent: May-12-15 3:36 PM
To: 'Shepherd, David'
Subject: FW: Heli Utility Pod Enquiry
Importance: High

Hi David,

We have a special request from a customer purchasing a D350-602-013. He's requesting that we prepare the pod with holes as per attached. Translated into inches:

1. 12.56 in² for the circle;
2. 28.54 in² for the rectangle;
3. 41.10 in² total.

Per Section 3.2 of IIN-D350-602, we are allowing cutouts that do not exceed half of the shaded area.

1. Shaded area = 240.88 in²;
2. Half of that = 120.44 in²;

3. Total area of cutouts is far less – about one third – than what we allow.

Ian is to punch those holes tomorrow. Are you OK to record this as a deviation on the W/O?

Regards,
Marc

From: Marc Bellavance
Sent: May-04-15 9:16 AM
To: Linda Lacelle; Nigel Forbes; Mario Poulin
Cc: Holly Menard; Sian Willems
Subject: FW: Heli Utility Pod Enquiry

All,

Please find attached. I believe that we now have all we need to proceed. I guess at this point, it's only a matter of coordinating the deviation with Engineering and our DQA.

Marc

From: Shaun Stone [<mailto:Shaun.Stone@3dlasermapping.com>]
Sent: May-01-15 8:44 AM
To: Marc Bellavance
Cc: Linda Lacelle; Nigel Forbes; Lucie Lamoureux; Mario Poulin; Graham Hunter; Holly Menard; Sian Willems
Subject: RE: Heli Utility Pod Enquiry

Hi Marc,

It doesn't matter too much for our application, but having it reversed to your drawing would be best for us. I have attached an updated drawing including the direction of travel on the cut out drawing.
Please get in touch if you have any other questions.

Regards,

Shaun

Shaun Stone
Project Engineer



3D Laser Mapping Ltd
Phone: +44 (0) 1949 838 004 | Mobile: +44 7931 301 300 | Fax: +44 (0) 870 121 4605 | Email: shaun.stone@3dlasermapping.com

From: Marc Bellavance [<mailto:mbellavance@dartaero.com>]
Sent: 30 April 2015 19:47
To: Shaun Stone

Cc: Linda Lacelle; Nigel Forbes; Lucie Lamoureux; Mario Poulin; Graham Hunter; Holly Menard; Sian Willems
Subject: RE: Heli Utility Pod Enquiry

Hello Shaun,

Thanks for the PO. Manufacturing is commencing work on the pod however we need confirmation of the orientation of the cutouts you require. With reference to attached drawing, please confirm which one of the cutouts must be towards the forward end of the pod.

Best regards,

Marc Bellavance
Mechanical Designer / Technical Support

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From: Shaun Stone [<mailto:Shaun.Stone@3dlasermapping.com>]
Sent: March-05-15 4:17 AM
To: Holly Menard; Sian Willems
Cc: Linda Lacelle; Nigel Forbes; Marc Bellavance; Lucie Lamoureux; Graham Hunter
Subject: RE: Heli Utility Pod Enquiry

Hi Holly,

Thanks for this. I'm afraid that is the wrong pod though. We did originally ask for this one, but I am after the D350-602-013/014 now with modifications. I believe this is a much shorter lead time. Could you please quote for one of these pods with the modifications as per the attached drawing.

Also, is it allowable for us to drill the holes in the doublers for attaching the mount ourselves? I believe so from previous e-mails but want to check to be sure.

Regards,

Shaun

Shaun Stone
Project Engineer



3D Laser Mapping Ltd

Phone: +44 (0) 1949 838 004 | Mobile: +44 7931 301 300 | Fax: +44 (0) 870 121 4605 | Email: shaun.stone@3dlasermapping.com

From: Holly Menard [<mailto:hmenard@dartaero.com>]
Sent: 05 March 2015 05:15
To: Shaun Stone; Sian Willems
Cc: Linda Lacelle; Nigel Forbes; Marc Bellavance; Lucie Lamoureux; Graham Hunter
Subject: RE: Heli Utility Pod Enquiry
Importance: High

Hi Shaun,

My sincere apologies on the delay in getting this quote to you. Please find attached your quotation as discussed with Sian.

Please do not hesitate to contact us if you have any additional questions or concerns.

Warm regards,

Holly Menard
Distribution Management Coordinator

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S hollymenard
1 800 556 4166
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From: Shaun Stone [<mailto:Shaun.Stone@3dlasermapping.com>]
Sent: March-04-15 11:26 AM
To: Sian Willems
Cc: Linda Lacelle; Nigel Forbes; Marc Bellavance; Lucie Lamoureux; Holly Menard; Graham Hunter
Subject: RE: Heli Utility Pod Enquiry

Hi Sian,

Could you please send me a formal quotation for a pod with the appropriate mods? Our customer has requested a formal quote so I think this will be going through fairly soon.

Regards,

Shaun

Shaun Stone
Project Engineer



3D Laser Mapping Ltd

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From: Shaun Stone
Sent: 25 February 2015 10:39
To: 'Sian Willems'
Cc: Linda Lacelle; Nigel Forbes; Marc Bellavance; Lucie Lamoureux; Holly Menard; Graham Hunter
Subject: RE: Heli Utility Pod Enquiry

Hi Sian,

Thanks for getting back to me, this information is really useful. If you could send me a formal quotation for a pod with the modifications that would be great. Please send this to Graham Hunter, copied into this e-mail too.

Would we be able to drill the holes in the doublers for attaching the mount ourselves? I believe so from your e-mail but want to check to be sure.

Regards,

Shaun

Shaun Stone
Project Engineer



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From: Sian Willems [<mailto:swillems@dartaero.com>]
Sent: 24 February 2015 19:31
To: Shaun Stone
Cc: Linda Lacelle; Nigel Forbes; Marc Bellavance; Lucie Lamoureux; Holly Menard
Subject: FW: Heli Utility Pod Enquiry

Hi Shaun,

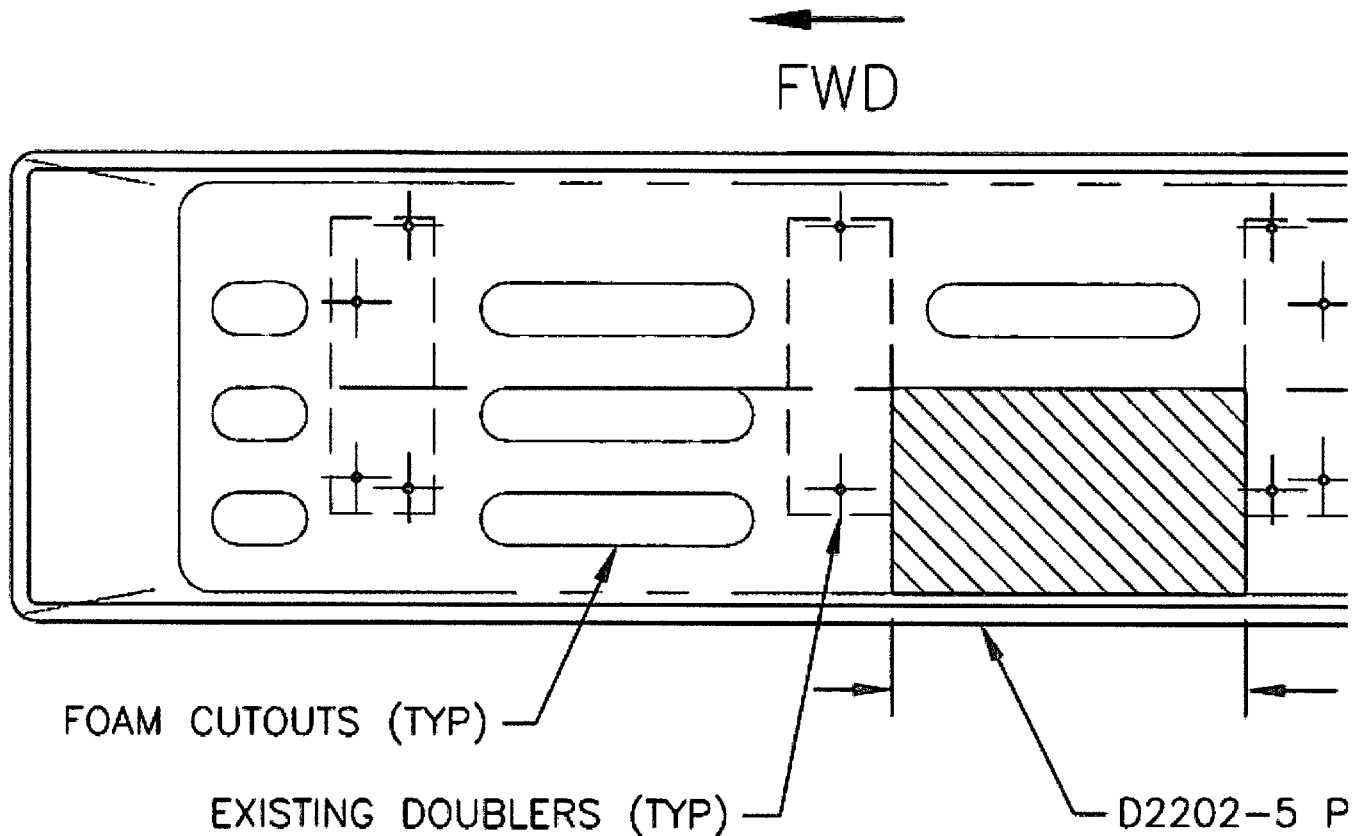
Thank you for your interest in our Heli-Utility-Pod for the AS350/355.

I hope to answer your questions below:

- Holes put into the pod for the sensors: the holes as defined on 3DLM_110293 rev 001 are acceptable on the existing STC for D350-602-013/-014 pods as long as they are in the cross-hatch area as you have defined it in your dwg.
- Best if you can perform the modifications and have these noted as a minor change on the STC: Dart can perform this modification. No minor change note is required as the modification falls within the parameters defined by the STC approved documentation.
- It is possible to modify the existing mount if needed: The existing mount would need to be modified in order to move the equipment so that the required holes are in the approved area of the pod. Also, to attach the existing mount to the base of the pod, the attachment points must fall within the existing foam cut-outs or doublers (see below). I have attached a detailed dwg of the pod base with dimension to accurately place all the foam cut-outs and doublers. If the attachment hardware of the feet of the mount can be placed within these areas then the mount can be attached per the existing STC.

- If you wish Dart to make the pod cut-outs, we can do this in house prior to shipping. The cost would be \$1,850 usd in addition to the cost of the pod. If you wish, I can have sales send you a formal quote.

I look fwd to hearing back from you at your earliest convenience.



Thanks,
SIAN WILLEMS
Customer Support Manager

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M 1 613 676-0577
F 1 613 632-5146
1 800 556- 4166
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From: Shaun Stone [<mailto:Shaun.Stone@3dlasermapping.com>]
Sent: Thursday, February 19, 2015 8:46 AM
To: Dart Sales; Support Hawkesbury
Cc: Lucie Lamoureux
Subject: Heli Utility Pod Enquiry

Hi,

We would like to mount a LiDAR sensor and camera into the D350-602-013/014 pod and have some holes put into the pod for the sensors. We have a mount we would like to install and I have been advised that it may be best if you can perform the modifications and have these noted as a minor change on the STC. We have been involved in something similar to this previously, I have attached some of the certification from this. I have also attached the drawings of the holes required and the existing mount. It is possible to modify the existing mount if needed. Could you please take a look and let me know if this is something you would be able to do?

Regards,

Shaun

Shaun Stone
Project Engineer



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